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National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 9612 (DSI-9612)

Satellite Seasat and GOES Data

December 23, 2003

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801-5001 USA

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1. Abstract: NASA's GEOS-3 (Geodynamics Experimental Ocean Satellite) was launched on April 9, 1975. A non-sun-synchronus satellite, GEOS-3 had an average altitude of 840km, an inclination of 115°, and period of 101.8 minutes. The Radar Altimeter on GEOS-3 operated nearly continuously from launch to July 1979. Spatial resolution of this sendor was 3.6km. During the 3½ years of operation, the GEOS-3 ALT provided the most complete set of geodetic and geophysical data ever collected over the oceans, and was a forerunner of the ALT on board SEASAT.

The SEASAT spacecraft was launched in late June 1978 and was the first earth-orbiting satellite designed for remote sensing of the earth's oceans. It had onboard the first space borne Synthetic Aperture Radar (SAR). During its brief 110-day lifetime, it collected 90 days of nearly continuous radar altimeter data between the latitudes of 72 deg S and 72 deg N. Instruments on the SEASAT included: the SEASAT-A Scatterometer System (SASS), an active backscatter scatterometer operating at a frequency of 13.0 Ghz. The SASS produced earth location and time tagged backscatter coefficients, surface wind stresses, and surface wind vectors (with 180 degree directional ambiguity). The SEASAT Altimeter was an active radar altimeter which produced earth location and time tagged satellite heights, significant wave heights, and geoid information. The Scanning Multichannel Microwave Radiometer (SMMR), identical to the SMMR instrument aboard the NIMBUS-7, produced earth location and time tagged sea surface temperature, surface wind stress, atmospheric water vapor, liquid water content, and precipitation rate. The Synthetic Aperture Radar (SAR) produced 25 meter resolution surface roughness imagery at a swath width of 100 km for selected areas. The fifth instrument, Visible and IR Radiometer (VIRR), produced imagery for identification of cloud and geographical features. Time and earth location tagged sensor and geophysical data from the SEASAT instruments are available in digital form, and limited SAR data are available both in digital and image form. Data are on archive for the period from July 7 through October 10. 1978.

2. Element Names and Definitions:

More information can be found here:

http://podaac.jpl.nasa.gov:2031/SOURCE_DOCS/seasat.html

3. Start Date: 19750409

4. Stop Date: 19781208

5. Coverage:

a. Southernmost Latitude: 10.0S
b. Northernmost Latitude: 75.0N
c. Westernmost Longitude: -165.0W
d. Easternmost Longitude: 0.0E

6. How to Order Data:

Ask NCDC's Climate Services about the cost of obtaining this data set.

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Phone: 828-271-4800
FAX: 828-271-4876
E-mail: **NCDC.Orders@noaa.gov**

7. Archiving Data Center:

Archive Branch
National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801

8. Technical Contact:

National Climatic Data Center
151 Patton Avenue
Asheville, NC 28801

9. Known Uncorrected Problems: None.

10. Quality Statement:

11. Essential Companion Datasets:

12. References:

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